

LEGIONELLOSIS - USA (03): (NEW JERSEY) NOSOCOMIAL, FATAL

A ProMED-mail post <<http://www.promedmail.org>>

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Date: Fri 3 Oct 2008

Source: Newsday.com [edited]

<<http://www.newsday.com/news/local/wire/newjersey/ny-bc-nj--hospital-legionna1003oct03,0,7905839.story>>

A 3rd patient has died after contracting Legionnaires' disease at a New Brunswick [New Jersey] hospital. The unidentified woman died Friday [3 Oct 2008] at Saint Peter's University Hospital. A hospital spokeswoman said she was being treated for a separate, unspecified illness.

8 patients of the hospital have been diagnosed with Legionnaires' disease since mid-September 2008. All were staying in the same oncology wing. One male patient died on 12 Sep 2008, and another man died on 22 Sep 2008. Officials say 2 patients have recovered from the disease.

Legionnaires' disease is a form of pneumonia that can be spread through plumbing and air conditioning systems. Hospital officials traced the outbreak to a decrease in chlorine levels in the hospital's water system. The cause of the decrease was under investigation.

Communicated by:

ProMED-mail <promed@promedmail.org>

[Legionnaires' disease is the acute pneumonic form of disease caused by Legionella, usually Legionella pneumophila. About 80-90 percent of cases are caused by L. pneumophila serogroup 1. Legionnaires' disease is usually acquired by inhalation by a susceptible person of an infectious dose of aerosolized Legionella. Risk factors include age over 50 years, cigarette smoking, diabetes, chronic heart or lung disease, and immunosuppression -- patients in an oncology unit would likely be especially susceptible.

Hospitals caring for immunocompromised patients ideally should have in-house capability to perform Legionella pneumophila, serogroup 1 urinary antigen testing, or a contract with a laboratory that will provide urinary antigen testing and results within 24 to 48 hours, and have a system in place to submit cultures to a microbiology laboratory within 24 hours of specimen collection <<http://www.dhmd.state.md.us/publ-rel/html/0800legion.htm>>.

The above news release does not specify whether there was any delay in diagnosis of their 1st case. Once the 1st case is diagnosed, legionella testing should also be done for all other nosocomial pneumonia cases.

An epidemiological and environmental investigation for the source of Legionella organisms should be initiated when the 1st case of hospital-acquired legionellosis is identified. Genotyping patient and environmental isolates will help to confirm the environmental source.

Apparently, the water system in the New Brunswick hospital has been incriminated. Legionella are usually found primarily in the hot water portion of plumbing systems and in cooling towers. Warm water temperatures of 25-40 C (77-104 F) support the highest concentrations of the organism in plumbing systems. In addition, Legionella are embedded in a biofilm that lines the inner walls of the plumbing system's pipes and containers. Concentrations of the organism can be increased by any disruption of this biofilm. Infectious aerosols can be generated by a building's faulty air conditioning systems, shower heads, misters, and whirlpool spas.

Elimination or reduction of legionella colonization in a hot water system is difficult, especially if the system is old. As Legionella are killed by temperatures over 55 C (131 F), superheating of water to 71-77 C (160-171 F), from 43 C (110 F), the temperature usually used by most hospitals, or hyperchlorination (greater than 10 mg/liter of chlorine in water) for a period of time is recommended to eliminate Legionella from a hot water system (<<http://www.dhmh.state.md.us/html/legionella.htm>>).

The above news release does not specify what remediation is being done but does say that the cause of the outbreak was "a decrease in chlorine levels in the hospital's water system," which suggests that the hospital may have been trying to maintain a certain level of free chlorine to control Legionella in their water system (<<http://www.dhmh.state.md.us/html/legionella.htm>>).

During the epidemiological and environmental investigation for the source of Legionella organisms, immunocompromised patients should be prohibited from taking showers, and only sterile water should be used for their oral consumption until Legionella becomes undetectable by culture of the hospital water (<<http://www.dhmh.state.md.us/html/legionella.htm>>).

The above news release does not say what the hospital is doing for prevention of nosocomial legionellosis pending eradication of Legionella from their water system. - Mod.ML]

[see also:

Legionellosis - USA (02): (NY) 20080824.2640 Legionellosis - USA: (NY) 20080814.2515

2006

Legionellosis, hotel - USA (FL) 20060205.0374

2005

Legionellosis - USA (SD) (02): fountain 20051031.3175 Legionellosis, Legionnaires -
USA (PA)(02) 20050812.2363 Legionellosis, hospital acquired - USA (NY) (03)
20050719.2082 Legionellosis, resort condominium - USA (MD) 20050202.0360
2004

Legionellosis, hotel - USA (ex OK) 20040325.0826 Legionellosis, hotel - USA (TX ex
OK)(02): background 20040324.0823
2003

Legionellosis - USA 20030717.1756
Legionellosis - USA (Delaware) 20030713.1721
2002

Legionellosis - USA (Vermont) (02) 20020809.5007 Legionellosis, nursing home - USA
(Pennsylvania) 20020615.4507
2001

Legionellosis, automobile plant - USA (Ohio) (02) 20010316.0536]
.....ml/msp/jw